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CUSTOMER NUMBER 25268

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Yager et al. Attorney Docket No. UNIV0238  
Serial No.: 10/788,884 Group Art Unit: 2858  
Filed: February 27, 2004 Examiner:  
Title: MICROFLUIDIC DEVICES FOR TRANSVERSE ELECTROPHORESIS AND  
ISOELECTRIC FOCUSING

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Bellevue, Washington 98004

December 2, 2005

TO THE COMMISSIONER FOR PATENTS:

Applicant is aware of the information listed in the attached form that may be material to the prosecution of the above-identified patent application.

- \_\_\_\_ 1. Copies of the listed Foreign Patent Documents and Other Information are enclosed for the Examiner's use.
- X 2. Copies of the listed patents, publications, and other information were previously cited by or submitted to the U.S. Patent and Trademark Office in prior application Serial No. 09/579,666, filed May 26, 2000, and relied upon for an earlier filing date under 35 U.S.C. § 120.
- X 3. Documents cited herein marked with an "\*\*\*" have not previously been cited in a priority application relied upon herein for an earlier filing date. Copies of any so-noted Foreign Patent Documents and Other Information are enclosed for the Examiner's use.
- \_\_\_\_ 4. A concise explanation of the relevance of document I.D. No. \_\_\_\_ (which is not in the English language), as presently understood by the individual designated under 37 C.F.R. § 1.56(c) most knowledgeable about its content, is provided \_\_\_\_.
- X 5. Pursuant to 37 C.F.R. § 1.97(b), this information disclosure statement is being filed within three months of the filing date of the national application, within three months of the date of entry of the national stage as set forth in 37 C.F.R. § 1.491 in an international application, or before the mailing date of a first Office Action on the merits.
- \_\_\_\_ 6. Submission with RCE: Pursuant to 37 C.F.R. § 1.114, this information disclosure statement is being submitted concurrently with a Request for Continued Examination

(RCE) in the above-identified application.

7. Pursuant to 37 C.F.R. § 1.97(c), this information disclosure statement is being filed after the period set forth in 37 C.F.R. § 1.97(b) but before the mailing date of either a final action under 37 C.F.R. § 1.113, or a notice of allowance under 37 C.F.R. § 1.311, and is accompanied by:

a. \_\_\_\_\_ a certification as specified in 37 C.F.R. § 1.97(e); or

b. \_\_\_\_\_ the fee set forth in 37 C.F.R. § 1.17(p). Check No. \_\_\_\_\_ in the amount of \$ \_\_\_\_\_ is enclosed.

8. Pursuant to 37 C.F.R. § 1.97(d), this information disclosure statement is being filed after the mailing date of either:

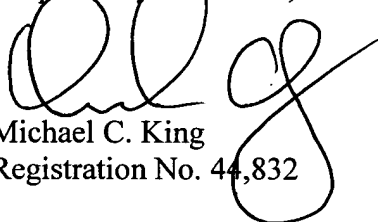
a. \_\_\_\_\_ a final action under 37 C.F.R. § 1.113; or

b. \_\_\_\_\_ a notice of allowance under 37 C.F.R. § 1.311,

but before payment of the issue fee. The statement is accompanied by a certification as specified in 37 C.F.R. § 1.97(e), a statement requesting consideration of the information disclosure statement, and the petition fee set forth in 37 C.F.R. § 1.17(p). Check No. \_\_\_\_\_ in the amount of \$ \_\_\_\_\_ is enclosed.

X 9. Please charge any additional fees or credit any overpayment to Deposit Account No. 01-1940. A copy of this sheet is enclosed.

Respectfully submitted,

  
Michael C. King  
Registration No. 44,832

I hereby certify that this correspondence is being deposited with the U.S. Postal Service in a sealed envelope as first class mail with postage thereon fully prepaid addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450, on December 2, 2005.

Date: December 2, 2005





CUSTOMER NUMBER 25268

**SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT LISTING SHEET**

**Information Cited By Applicant(s) That May Be Material To  
The Prosecution Of The Subject Application**

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ISOELECTRIC FOCUSING

**U.S. PATENT DOCUMENTS**

*NONE CITED*

**FOREIGN PATENT DOCUMENTS**

<u>*Examiner</u> <u>Initial</u>	<u>ID</u>	<u>Document No.</u>	<u>Publication</u> <u>Date</u>	<u>Country</u>	<u>Class</u>	<u>Sub-</u> <u>Class</u>	<u>Translation?</u>
_____	F1**	WO99/19717	4/22/99	PCT	G01N27/26		
_____	F2**	WO94/11728	5/26/94	PCT	G01N		
_____	F3**	WO95/17950	7/6/95	PCT	B01D		

**OTHER INFORMATION**

<u>*Examiner</u> <u>Initial</u>	<u>Document</u> <u>No.</u>	<u>Document Information</u>
_____	O1	Kane et al., (1999), "Blood group typing by electrophoresis based on isoelectric focusing." Anal. Chim. Acta 383: 187-168.
_____	O2	Kopp et al., (May 1998), "Chemical Amplification: Continuous-Flow PCR on a Chip," Science 280: 1046-48.
_____	O3	Levin, S., (1990), "Field -Flow Fractionation (FFF) and Related Techniques for the Separation of Particles, Colloids and Macromolecules," Isr. J. Chem. 30: 257-262.

## OTHER INFORMATION

<u>*Examiner Initial</u>	<u>Document No.</u>	<u>Document Information</u>
_____	O4	Levin, et al., (1989), "Continuous Separation of Proteins in Electrical Split-Flow Thin (Splitt) Cell with Equilibrium Operation," Sep. Sci. Tech. 24(14) 1245-59.
_____	O5	Li, P.C.H. and Harrison, D., (Apr 1997), "Transport, Manipulation, and Reaction of Biological Cells on-Chip Using Electrokinetic Effects," Anal. Chem. 69(8): 1564-1568.
_____	O6	Liu, G. and Giddings, J., (Feb 1991), "Separation of Particles in Nonaqueous Suspensions by Thermal-Electrical Field-Flow Fractionation," Anal. Chem. 63(3): 296-99.
_____	O7	Mao, Q.L. and Pawliszyn, J., (1999), "Demonstration of isoelectric focusing on an etched quartz chip with UV absorption imaging detection," Analyst. 124: 637-641.
_____	O8	Mao, Q.L. and Pawliszyn, J., (1999), "Effect of salt concentration on separation patterns in static capillary isoelectric focusing with imaging detection," J. Chrom 729: 355-359.
_____	O9	Mosher et al., (1989), "Computer Simulation and Experimental Validation of the Electrophoretic Behavior of Proteins," Anal. Chem., 61: 362-66.
_____	O10	Nguyen et al., (1977), "Electrofocusing in Natural pH gradients Formed by Buffers: Gradient Modification," Anal. Biochem. 78: 287-294.
_____	O11	Prestidge, R. and Hearn, M., (1979), "Preparative Flatbed Electrofocusing in Granulated Gels with Natural pH Gradients Generated from Simple Buffers," Anal. Biochem. 97: 95-102.
_____	O12	Palusinski et al., (Feb 1986), "Theory of Electrophoretic Separations: II. Construction of a Numerical Simulation Scheme and Its Applications," AIChE J. 32(2): 215-223.
_____	O13	Qin et al., (1998), "Microfabrication, Microstructures and Microsystems," Micro. Tech. Chem. And Life Sci., 194: 1-20.
_____	O14	Raymond et al., (Aug 1996), "Continuous Separation of High Molecular Weight Compounds Using a Microliter Volume Free-Flow Electrophoresis Microstructure," Anal. Chem. 68(15): 2515-2522.
_____	O15**	Raymond, D E et al., "Continuous Sample Pretreatment Using Free-Flow Electrophoresis Device Integrated into a Silicon Chip." Analytical Chemistry, American Chemical Society. Columbus, US, Vol. 66, No.18, Sept. 1994: 2858-2865.
_____	O16	Righetti, P. and Bossi, A., (1998), "Isoelectric focusing of proteins and peptides in gel slabs and in capillaries," Anal. Chim. Acta. 372: 1-19.
_____	O17	Rodriguez-Diaz et al., (1997) "Capillary isoelectric focusing," Electrophoresis 18: 2134-44.

### OTHER INFORMATION

<u>*Examiner</u> <u>Initial</u>	<u>Document</u> <u>No.</u>	<u>Document Information</u>
_____	O18	Rossier et al., (1999), "Microchannel networks for electrophoretic separations," Electrophoresis 20: 727-731.
_____	O19	Saville, D. and Palusinski, O., (Feb 1986), "Theory of Electrophoretic Separations," AIChEJ. 32(2): 207-214.
_____	O20	Schure et al., (June 1986), "Theory of Sedimentation Hyperlayer Field-Flow Fractionation," J. Anal. Chem., 58(7): 1509-1516.
_____	O21	Slais, K., (Sept. 1993), "Electrophoretic Focusing in a Natural Steady State Moving pH Gradient," J. Micro., 5: 469-479.
_____	O22	Svensson, H., (1961), "Isoelectric Fractionation, Analysis and Characterization Ampholytes in Natural pH Gradients. I. The Differential Equation of Solute Concentrations at a Steady State and its Solution for Simple Cases," Acta Chem. Scand. 15(2): 325-341.
_____	O23	Thormann et al., (1989), "Focusing Counterparts of Electrical Field Flow Fractionation and Capillary Zone Electrophoresis, Electrical Hyperlayer Field Flow Fractionation and Capillary Isoelectric Focusing," J. Chromatog. 461: 95-101.
_____	O24	Tri et al., (Apr 2000), "Development of Electrical Field-Flow Fractionation:, Anal. Chem. 72(8): 1823-1829.
_____	O25	Weigl et al., (1999), "Whole Blood Diagnostics in Standard Gravity and Microgravity by Use of Microfluidic Structures (T-Sensors)," Mikrochim Acta 131: 75-83.
_____	O26	Weigl, B and Yager P., (Jan 1999), "Microfluidic Diffusion-Based Separation and Detection," Sci. 283: 346-47.

\_\_\_\_\_  
Examiner's Signature

\_\_\_\_\_  
Date

\*Examiner: Initial if reference considered, whether or not citation is in conformance with M.P.E.P. § 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

\*\*Documents cited herein marked with an "\*\*\*" have not previously been cited in a priority application relied upon herein for an earlier filing date. Copies of any so-noted Foreign Patent Documents and Other Information are enclosed for the Examiner's use.

MCK:cai  
12/2/2005